

WHAT IS CLAIMED IS:

1. A capacitive dynamic quantity sensor comprising:

a semiconductor substrate;

a weight, which is movably supported by the semiconductor substrate;

a first movable electrode, which is integrated with the weight; and

two first fixed electrodes, which are stationarily supported by the semiconductor substrate, wherein the first fixed electrodes face the first movable electrode to provide a first narrow gap and a first wide gap and form a first detection part having a first capacitance, wherein the weight and the first movable electrode are displaced relative to the first fixed electrodes in response to a dynamic quantity to be detected such that one of the gaps increases while the other decreases, wherein the dynamic quantity is detected on a basis of a variation in the first capacitance, and wherein one of wide gap electrode surfaces, which define the first wide gap, is smaller than narrow gap electrode surfaces, which define the first narrow gap, to improve sensor sensitivity.

2. The sensor according to claim 1, wherein an electrode height of one of the wide gap electrode surfaces is smaller than an electrode height of the narrow gap electrode surfaces.

3. The sensor according to claim 1, the sensor further comprising:

a second movable electrode, which is integrated with the

weight; and

two second fixed electrodes, which are stationarily supported by the semiconductor substrate, wherein the second fixed electrodes face the second movable electrode to provide a second narrow gap and a second wide gap and form a second detection part having a second capacitance, wherein the weight and the second movable electrode are displaced relative to the second fixed electrodes in response to the dynamic quantity to be detected such that one of the second narrow gap and the second wide gap increases while the other decreases and such that one of the first and second narrow gaps increases while the other decreases, and wherein the dynamic quantity is detected on a basis of the variation in the first capacitance and a variation in the second capacitance.

4. A detector comprising a capacitive dynamic quantity sensor, wherein the sensor includes:

a semiconductor substrate;

a weight, which is movably supported by the semiconductor substrate;

a first movable electrode, which is integrated with the weight;

two first fixed electrodes, which are stationarily supported by the semiconductor substrate, wherein the first fixed electrodes face the first movable electrode to provide a first narrow gap and a first wide gap and form a first detection part having a first capacitance, wherein the weight and the first movable electrode are displaced relative to the first fixed electrodes in response to a

dynamic quantity to be detected such that one of the gaps increases while the other decreases, and wherein one of wide gap electrode surfaces, which define the first wide gap, is smaller than narrow gap electrode surfaces, which define the first narrow gap, to improve sensor sensitivity;

a second movable electrode, which is integrated with the weight;

two second fixed electrodes, which are stationarily supported by the semiconductor substrate, wherein the second fixed electrodes face the second movable electrode to provide a second narrow gap and a second wide gap and form a second detection part having a second capacitance, and wherein the weight and the second movable electrode are displaced relative to the second fixed electrodes in response to the dynamic quantity to be detected such that one of the second narrow gap and the second wide gap increases while the other decreases and such that one of the first and second narrow gaps increases while the other decreases; and

a detection circuit, which outputs a detection signal in response to a capacitance difference between the first and second capacitances when the first and second capacitances vary due to the dynamic quantity to be detected.

5. A method for manufacturing a capacitive dynamic quantity sensor that includes:

a semiconductor substrate;

a weight, which is movably supported by the semiconductor substrate;

a movable electrode, which is integrated with the weight; and two fixed electrodes, which are stationarily supported by the semiconductor substrate, wherein the fixed electrodes face the movable electrode to provide a narrow gap and a wide gap and form a detection part having a capacitance, wherein the weight and the movable electrode are displaced relative to the fixed electrodes in response to a dynamic quantity to be detected such that one of the gaps increases while the other decreases, and wherein the dynamic quantity is detected on a basis of a variation in the capacitance, the method comprising:

forming the movable electrode and the two fixed electrodes on the semiconductor substrate such that one of wide gap electrode surfaces, which define the wide gap, becomes smaller than narrow gap electrode surfaces, which define the narrow gap, to improve sensor sensitivity.

6. The method according to claim 5, wherein the movable electrode and the two fixed electrodes are formed such that an electrode height of one of the wide gap electrode surfaces is smaller than an electrode height of the narrow gap electrode surfaces.